

### **REMARKS**

An Excess Claim Fee Payment Letter is submitted herewith to cover the cost of five (5) excess total claims.

Claims 1-12 and 16-33 are all the claims presently pending in the application. Claims 1-4, 9, 16 and 28 have been amended to further define the invention. Claims 29-33 have been added to claim additional features of the invention.

It is noted that the claim amendments are made only for more particularly pointing out the invention, and not for distinguishing the invention over the prior art, narrowing the claims or for any statutory requirements of patentability. Further, Applicant specifically states that no amendment to any claim herein should be construed as a disclaimer of any interest in or right to an equivalent of any element or feature of the amended claim.

Claims 1-12 and 16-28 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Noble (U.S. Patent No. 5,954,596), in view of Beach (U.S. Patent No. 6,623,378 B2), Thorne, et al. (U.S. Patent No. 5,800,285), Sasamoto (U.S. Patent No. 6,193,614 B1), Kosmatka (U.S. Patent No. 5,830,084) and Evans et al. (U. S. Patent No. 6,398,666). Claims 1-11, 16-22 and 24-28 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Noble, in view of Kosmatka and Evans. Claims 12 and 23 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Noble, in view of Kosmatka, Evans and Sasamoto.

These rejections are respectfully traversed in view of the following discussion.

#### **I. THE CLAIMED INVENTION**

The Applicant's invention (e.g., as recited in claims 1, 16 and 28 and similarly recited in claim 9) is directed to a golf club head having a face portion formed by using a rolled metal plate member, the face portion having a thick-walled portion and a thin-walled portion. A reverse surface of the face portion includes a flat surface at the thick-walled portion, the thin-walled portion being formed around the flat surface. The flat surface includes a substantially uniform

elevation and has an outermost periphery located at a central area of the face portion.

Conventional golf club heads may include a metal face which has been forged to include a thick portion surrounded by a thin portion. However, such metal faces tend to break at the thin portion where variations in strength may occur (Application at page 4, lines 5-9).

The claimed invention, on the other hand, includes a face portion having a sloped portion which is formed around the flat surface and includes a slope in a direction perpendicular to a rolling direction which is gentler than a slope of the sloped portion in the rolling direction (e.g., see Application at Figure 16; page 6, line 24-page 7, line 2). This feature helps to inhibit an occurrence of a crack formed in a border between the thick-walled portion and the thin-walled portion (Application at page 10, line 23-page 11, line 2).

## **II. THE NOBLE, BEACH, THORNE, SASAMOTO AND KOSMATKA AND EVANS REFERENCES**

The Examiner alleges that Noble would have been combined with Beach, Thorne, Sasamoto, Kosmatka and Evans to form the claimed invention of claims 1-12 and 16-28, that Noble would have been combined with Kosmatka and Evans to form the invention of claims 1-11, 16-22 and 24-28, and that Noble would have been combined with Kosmatka, Evans and Sasamoto to form the invention of claims 12 and 23.

Applicant submits, however, that these references would not have been combined and even if combined, the combination would not teach or suggest each and every element of the claimed invention.

First, Applicant would again submit that the large number of references which the Examiner alleges would have been combined to form the claimed invention is a clear indication that the claimed invention would not have been obvious to one of ordinary skill in the art. Indeed, the Examiner is now surprisingly attempting to combine no less than six references in order to reject the claims of the present Application which is highly unusual. In fact, Applicant would submit that it exceeds the bounds of reason to allege that the six disparate references which have been cited by the Examiner, would have been combined as alleged by the Examiner.

Thus, Applicant would submit that, based on this fact alone, it is clear that the Examiner has failed to make a prima facie case of obviousness.

Further, Applicant would again point out that the cited references are directed to different problems and solutions. Therefore, Applicant would submit that these references would not have been combined as alleged by the Examiner.

Specifically, Applicant would again point out that Noble discloses a golf club head having a "hollow shell" design having an integrally formed, single body construction (e.g., see cross-sectional drawings in Figures 9 and 10 in Noble), whereas Beach discloses a method for forming a golf club head having a strike plate 12 which can be formed by casting, forging, rolling or a combination of these (Beach at col. 4, lines 15-19). Thus, the Examiner is surprisingly alleging that Noble which teaches that only a "hollow shell" club head and does not teach or suggest a welded face portion (e.g., face plate) would have been combined with Beach in order to form the "hollow shell" club head by "rolling or forging". Applicant would again submit that this is clearly unreasonable.

The Examiner attempts to somehow rely on Motomiya (U. S. Patent No. 4,438,931) and Zeider (U. S. Patent No. 5,232,224) to support his position that one of ordinary skill in the art would have formed a hollow club head by forging or stamping. However, Applicant would point out to the Examiner that **unlike the Noble club head, the club heads in Motomiya and Zeider do not have an integrally formed, single body construction but are formed from several parts which may be separately forged** (e.g., see Zeider at Abstract and Motomiya at Abstract). Thus, the fact that the separate parts of the club heads in Zeider and Motomiya may be separately forged clearly does not support the Examiner's position which is clearly unreasonable.

Further, Applicant would again point out that the Examiner again merely alleges that fashioning a club face by forging or rolling was "old in the art" and does not provide a reason why one of ordinary skill would have modified the alleged Noble to use rolling or forging to form the Noble club head (e.g., see MPEP §2143). Thus, the Examiner has failed by make a prima facie case of obviousness.

In addition, in contrast to Noble and Beach, Thorne discloses a golf club head 14 having **a sole plate part 11 which is separately formed from the remainder of the head 14**. Thorne merely states that these parts can be separately formed by casting, forging, machining, stamping, welding or other techniques (Thorne at col. 2, lines 56-61). Thus, the Examiner alleges that the combination of the front wall of the “hollow shell” type golf club head (e.g., Noble), formed by forging (e.g., Beach) would have been further formed by machining (e.g., Thorne).

Again, Applicant would point out that the Examiner merely alleges that machining was “well-known to the skilled artisan” and does not provide a reason why one of ordinary skill would have modified the alleged Noble/Beach combination to use machining instead of casting, or forging (e.g., see MPEP §2143). Thus, the Examiner has failed by make a prima facie case of obviousness.

In contrast to Noble, Beach and Thorne, Sasamoto discloses a golf club head having a face portion 7 mounted to a head body (Sasamoto at Figures 5(a)-5(b); col. 9, lines 11-34). The face portion 7 is formed of a material that was processed, by rolling, to having crystal grains which are oriented in the vertical direction of the face portion.

However, as with Beach, Applicant would submit that it is unreasonable to think that one of ordinary skill in the art would have combined the teachings of Sasamoto with the integrally formed, single body constructed club head of Noble by forging.

In contrast to Noble, Beach, Thorne and Sasamoto, Kosmatka discloses a contoured golf club face which is intended only for educational purposes. The club face includes a non-tapered vertical stiffening region, a tapered horizontal stiffening region, four similar contoured quadrants of increasingly thinning material toward the center of each quadrant, and thickening regions at face/sole and face/crown intersection regions.

The Examiner again states that “Kosmatka is cited to show without question that at least a portion of the thickened central portion of the striking member may indeed be substantially flat in profile” (Office Action at page 5). However, nowhere does the Examiner identify any motivation for modifying the alleged combination of other references to include the allegedly “flat surface” of Kosmatka. Thus, the Examiner has failed by make a prima facie case of

obviousness.

Moreover, Applicant would again point out that a "flat surface" is clearly contrary to the teaching of Noble which teaches that the thickness of the wall 26 **should be greatest at the geometric center C, and gradually decrease** in a direction from the center to the heel, the toe, the top and the sole of the club head (Noble at col. 3, lines 30-39). Therefore, Kosmatka clearly teaches away from Noble and clearly would not have been combined with the alleged Noble/Beach/ Thorne/Sasamoto combination to form the claimed invention, as alleged by the Examiner.

Further, unlike the other cited references, Evans discloses a golf club striking plate having a thickness which varies depending upon impact probability (Evans at col. 6, lines 7-27). Specifically, the regions 40, 42, 44 and 46 are thicker than other parts of the plate because these regions allegedly have a high impact probability. More specifically, Evans states that "the thickest portion of the central region 40 is preferably at a point 84, offset from both the geometric center 80 of the striking plate and the geometric center 82 of the central region 40" (Evans at col. 6, lines 4-7).

Applicant submits that Evans would not have been combined with the other references. Indeed, Applicant submits that the teaching of Evans directly contradicts that of Noble that the thickest part of the club face should be at the center of the face. Moreover, Evans certainly contradicts Kosmatka which has little concern for impact probability, and instead **varies the thickness of the face primarily in order to provide an "acoustical sound", to thereby encourage a user to hit the "sweet spot"**. Indeed, Applicant would point out that the vertical stiffening region on the club face in Kosmatka would likely detract from a driving distance because it would likely prevent the face from "flexing" upon impact.

Thus, Applicant submits that no person of ordinary skill in the art would have considered combining these disparate references, absent impermissible hindsight. Further, the Examiner has failed to show some suggestion or motivation to modify the references (e.g., as required by MPEP §2143) and, therefore, the Examiner has failed to make a prima facie case of obviousness.

Moreover, Applicant submits that neither Noble, nor Beach, nor Thorne, nor Sasamoto,

nor Kosmatka, nor Evans, nor any combination thereof teaches or suggests "*wherein said face portion further comprises a sloped portion which is formed around said flat surface and comprises a slope in a direction perpendicular to a rolling direction which is gentler than a slope of said sloped portion in the rolling direction*" (e.g., see Application at Figure 16; page 6, line 24-page 7, line 2). This feature helps to inhibit an occurrence of a crack formed in a border between the thick-walled portion and the thin-walled portion (Application at page 10, line 23-page 11, line 2).

Clearly, this feature is not taught or suggested by the cited references. Indeed, Sasamoto and Thorne do not even teach or suggest a face portion having different thicknesses. Therefore, these references certainly do not teach or suggest the "sloped portion" of the claimed invention.

Further, the Examiner alleges that Noble teaches that "the transition from thick-walled to thin-walled portions is clearly gentler in a heel-to-toe direction ... since the length dimension is greater than the height or vertical dimension of the striking plate" (Office Action at page 4). However, this is clearly incorrect. Indeed, Noble makes no mention of a difference in the "transition" from thick-wall to thin-wall in the vertical and horizontal directions. Indeed, Figures 9 and 10 clearly show that there is no difference in the "transition". **(In fact, Applicant would encourage the Examiner to superimpose Figure 10 over Figure 9 to compare the "transition" in the horizontal and vertical directions. This further supports Applicant's position that Nobel does not teach or suggest any difference in the "transitions" in the horizontal and vertical directions.)**

Further, contrary to the Examiner's allegations, whether the length dimension is greater than the height or vertical dimension of the striking plate is completely irrelevant to whether there is a difference in the "transitions". Indeed, it is clearly possible to have a sharper transition in the heel-toe direction.

Further, the Examiner expressly concedes that Noble does not teach or suggest the "flat surface" (e.g., at the thick walled portion) as in the claimed invention. Thus, the Examiner must concede that Noble does not teach or suggest this feature.

In addition, Kosmatka clearly does not teach or suggest this feature. Indeed, Kosmatka teaches one thickness from the top to the bottom of the club face (e.g., the vertical stiffening

region) 16. Thus, Kosmatka clearly does not teach or suggest the claimed invention in which the thin-walled portion is formed "around said flat surface". Indeed, Applicant would point out that the Application clearly indicates that this is an important feature of the claimed invention, stating: "[s]ince the peripheral portion of the face member 3 is formed as the thin-walled portion, the thin-walled portion sufficiently rebounds at the time of impacting the ball, so that it is possible to improve the carry of the ball" (Application at page 21, lines 7-12).

Thus, even assuming (arguendo) that Kosmatka teaches a surface which may be "flat", the surface extends across the entire height of the face. Thus, Kosmatka clearly does not teach or suggest the flat surface of the claimed invention and certainly does not teach or suggest a sloped portion which is formed around the flat surface, let alone a sloped portion having a slope in a direction perpendicular to a rolling direction which is gentler than a slope of the sloped portion in the rolling direction

Further, Evans clearly does not teach or suggest this feature. Indeed, as noted above, Evans teaches that "the thickest portion of the central region 40 is preferably at a point 84, offset from both the geometric center 80 of the striking plate and the geometric center 82 of the central region 40" (Evans at col. 6, lines 4-7). That is, contrary to the Examiner's allegations, the central region 40 in Evans is not "flat" but has a variable thickness with a greatest thickness at point 84.

Moreover, Evans merely teaches that the transition region 42 is circular and "has a thickness that transitions from the first thickness to the second thickness" (Evans at Figure 2; col. 2, lines 65-66. Nowhere does Evans teach or suggest any benefit to having the slope of the transition region be gentler in a rolling direction of the face (e.g., in a heel-toe direction) than in a direction perpendicular to a rolling direction (e.g., a top-sole direction).

Thus, Evans clearly does not teach or suggest a face portion having a sloped portion which is formed around the flat surface and includes a slope in a direction perpendicular to a rolling direction which is gentler than a slope of the sloped portion in the rolling direction.

Thus, Evans clearly does not make up for the deficiencies of the other references.

Therefore, Applicant would submit that these references would not have been combined and even if combined, the combination would not teach or suggest each and every element of the

claimed invention. Therefore, the Examiner is respectfully requested to withdraw this rejection.

### III. FORMAL MATTERS AND CONCLUSION

In view of the foregoing, Applicant submits that claims 1-12 and 16-28, all the claims presently pending in the application, are patentably distinct over the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

The Commissioner is hereby authorized to charge any deficiency in fees or to credit any overpayment in fees to Attorney's Deposit Account No. 50-0481.

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Respectfully Submitted,



Phillip E. Miller, Esq.  
Registration No. 46,060

**McGinn & Gibb, PLLC**  
8321 Old Courthouse Road, Suite 200  
Vienna, VA 22182-3817  
(703) 761-4100  
**Customer No. 21254**